

Abstract

A method of process, industrial, environmental or other control includes executing a first sequence of instructions in a first process (or thread) and executing a second sequence of instructions in a second process (or thread) that is loosely coupled with the first. States of the first and second processes are compared following their respective completions of the first and second instruction sequences. The comparison can cover registers, memory, flags, interrupts, tasks, and/or events in each of the respective processes. Execution of further instruction sequences by either process is delayed pending a favorable comparison of the process states. If the process achieve comparable states, the first process can take up execution of a third sequence, while the second process takes up execution of a fourth sequence. In the event that one of the processes does not complete its respective instruction sequence within a set period of time, or if the process states do not otherwise favorably compare after execution of the respective sequences, the method calls for signaling an error. A device for process, industrial, environmental or other control operates in accord with such a method.

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